

## DOCUMENT RESUME

ED 112 509

EA 007 544

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TITLE Adapting the Curriculum and the Teaching-Learning Process to the Changing World. The Fundamentals of Educational Planning: Lecture-Discussion Series No. 36.  
INSTITUTION United Nations Educational, Scientific, and Cultural Organization, Paris (France). International Inst. for Educational Planning.  
REPORT NO IIEP-TM-36-69  
PUB DATE 69  
NOTE 11p.  
AVAILABLE FROM IIEP Publications, 7-9 rue Eugene-Delacroix, 75016 Paris, France (\$0.25, distribution charges)  
EDRS PRICE MF-\$0.76 Plus Postage. HC Not Available from EDRS.  
DESCRIPTORS \*Administrator Role; \*Change Strategies; Curriculum Development; Educational Administration; \*Educational Change; \*Educational Improvement; Educational Planning; Elementary Secondary Education; Research and Development Centers; Teacher Administrator Relationship; \*Teacher Role

## ABSTRACT

The crucial problem for educational administrators concerned with improving the quality of education is how to build into their systems the capacity to change. Four major factors are necessary for an education system to remain sensitive and adaptable to change: a proper understanding of their own role by administrators, availability of well qualified teachers, encouragement of flexibility in teachers and schools, and provision of change-making research institutions. The administrator's role is to organize a system that enables educators to do their work effectively. The essential step toward divesting administrators of technically educative functions is improvement of the quality of teachers. When teachers are well educated and have access to continued professional training, administrators are able to encourage local initiative and autonomy. The role of administrators then is to set up innovative machinery or change-making institutions. The simplest such institutions are committees of teachers and advisers; however these groups are rarely able to generate really new ideas, techniques, or methods. For that, more formal, specialized research and development institutions must be set up. (Author/JG)

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# The Fundamentals of Educational Planning : Lecture - Discussion Series

No. 36 ADAPTING THE CURRICULUM AND THE TEACHING-LEARNING PROCESS  
TO THE CHANGING WORLD

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## THE CHANGING WORLD

### Rapidity of change

Only a few generations ago even in the educationally advanced countries, most education was given to children by informal, participatory means in the home and in the community. Today, increasingly, the school, a social institution specifically designed for the purpose, is playing a major part in the process of bringing up children. In a changing world, the school, to be an effective institution, must itself be capable of responding to changing needs.

### Concern with the quality of education

Administrators, in building and controlling school systems in a changing society, have two major pre-occupations: the extension of the quantity of education available, and the improvement of the quality of education. Concern with the quality of education is inextricably related to the school's ability to adapt to the needs of a rapidly changing world; for institutions and individuals both tend to continue to behave in the way they have grown up; the problem, then, is to help them grow up 'flexible', 'adaptable', able to meet changed circumstances in an appropriate manner. This is a problem that concerns the structure of education systems, as well as the teaching they provide for their pupils.

## THE SCHOOL SYSTEM AND CHANGE

School systems can very easily become somewhat isolated from the general currents of social change. Teachers can continue to teach what they themselves learned as children, irrespective of its relevance to today's world. Through lack of economic resources, educational materials can be scarce, new textbooks unavailable, and the school can have to depend too much on old aims, old knowledge, old materials, and old methods. As an institution in a changing society and in a society that needs to change, the school can be a brake upon progress.

### The problem for administrators

The crucial problem for administrators who are concerned with improving the quality of education is essentially this. how to ensure adaptability in their systems, that is, how to build into their systems the capacity to change. Most administrators in the developing countries that are undergoing rapid quantitative growth in education find themselves faced with a situation in which they have poorly educated teachers and have found it necessary to prescribe universal and highly elaborated syllabuses, standard methods, and uniform materials. To prevent these from becoming rigid and increasingly irrelevant to the changing needs of society is the problem.

## MEANS OF ENSURING THE ADAPTABILITY OF EDUCATION SYSTEMS

There are four major factors that are necessary so that an education system can remain sensitive and adaptable to change: (a) a proper understanding of their own role by the administrators themselves; (b) well-qualified teachers; (c) the encouragement of flexibility in the teachers and the schools; (d) the provision of change-making research institutions.

### (a) The administrator's role

The crucial factor in the situation is that the administrator must recognize the distinction between the administrative function and the technical or professional functions of people working in an education system.

In particular, the administrator has to build a system in which he does not retain for himself professional or technical functions that should be carried out by teachers, school principals, advisers, curriculum and teaching methods, experts and others whose educative function is the basic reason for the existence of the education system. The administrator's role is to organize a system that will enable the professional educators to do their own work effectively.

The hindrance to this is that, in their origins, education systems, like hospital systems etc., were administered by the professional or technical experts (teachers, doctors, etc.) who, as the systems grew, tended to keep in their own hands professional functions that, as administrators, they should have left to the professional educators. They tended to plan curricula themselves, prescribe textbooks, decide on teaching methods, set examinations, control teacher-training, and so on, long after their systems had become so large that they could not possibly find time to keep up-to-date in all these professional areas at the same time as they carried the burden of administration. Hence they tended to rely upon their own memory of their own teaching years; and thus they became agents for rigidity and a backward orientation rather than agents for change.

It must be admitted that the lack of well educated highly trained teachers has forced many administrators to continue to retain professional functions long after they know this is undesirable. Recognition of the undesirability of this situation is, however, essential if the administrator is to develop an adaptable system.

(b) Professional preparation of teachers

The essential step towards being able to divest the administrator of the technically educative functions is improvement of the professional quality of the teachers. Teachers and professional advisers have to be good enough (i) to develop appropriate new curricula; (ii) to adopt new methods, and adapt these to the differing needs of individual pupils; (iii) to be able to take the responsibility for the promotion from class to class, and (iv) to provide guidance to pupils about to enter into higher educational institutions than their own.

The direction of change

The first essential element in this is that the teachers themselves understand and accept the need for changing curricula and methods. They need to be aware of the direction of change in curriculum and methods in the modern world.

This direction may be summarized as follows: (i) from an emphasis on the memorization of factual knowledge to an emphasis upon problem-solving and the ability to find what facts are relevant to a problem and to use them in its solution; (ii) from the authority of the oral or written word to a critical approach towards generalizations; (iii) from training for a fixed job and position in society towards an education that will give mobility and adaptability and the ability to continue learning throughout life; (iv) from reliance on a school curriculum that rarely is changed to an attitude of constantly modifying what is taught.

Poor education and conservatism on the part of teachers are hindrances to the appreciation of the nature of changes needed in the conception of education today, and the administrator's task here is to facilitate improved basic education and training for teachers and to develop in-service education on a permanent basis to enable even well qualified teachers to keep up with changing circumstances.

(c) Flexibility in teachers and schools

When teachers are well educated and are able to take advantage of facilities for continued professional training, it becomes possible for the administrator to encourage initiative and considerable autonomy of action in schools and local school districts.

Flexibility of approach to differing local circumstances is then possible; and with flexibility the school can be an initiator of change. 'Flexibility' may be defined as the ability of a unit of a school system to change, independently of other units, without being hindered by the structure of the system.

If schools or groups of schools are well enough staffed to be able to adjust their teaching to the needs of their particular pupils and the particular circumstances of their localities, and they are permitted to do so without undue administrative hindrances, the whole school system becomes flexible and is able to meet the changing needs of society as these arise.

- Administrative hindrances that have to be reduced are (i) rigid detailed syllabuses of instruction that all teachers must adhere to; (ii) prescribed textbooks that may not be departed from; (iii) an inspection system that enforces uniformity of teaching; (iv) an examination and promotion system that standardizes the curriculum and methods of all schools.

The gradual decentralization of the policy-making and control of such factors as curriculum making, promotion methods, examinations, and so on, leads to the development of an adaptable system. Such decentralization, of course, can be carried out only gradually, as the qualifications of the teachers and local professional advisers and directors permit. Decentralization can proceed in stages, from regions to districts, and from districts to individual schools or groups of schools.

(d) Change-making institutions

The role of the administrator, however, at whatever level he operates, is not to attempt to draw up new curricula or undertake other similar professional and technical activities himself, but to set up innovative machinery or change-making institutions, composed of the teachers and other technical experts in education, whose task it is to keep curricula and methods under constant review, to ensure that they can meet changing needs and suit local circumstances.

## KINDS OF CHANGE-MAKING INSTITUTIONS

The simplest of such change-making institutions are committees of teachers and advisers, set up in schools, districts, and regions, for the purpose of in-service self-training by study and discussion. Seminars for the discussion of educational aims and methods; workshops for the co-operative making of educational materials and equipment and for the planning of new syllabuses; co-operative experimental work in groups of schools.



Such informal methods are essential for the application and spreading of ideas, within the existing limits of knowledge and practicability. However, they are rarely able to generate really new ideas, techniques or materials. For this, more permanent, expert, well-staffed and financed research institutions have to be set up.

### RESEARCH INSTITUTIONS

Foremost among such institutions are those whose basic function is research and innovation. There are several kinds of these, and the functions that they carry out are all essential in a forward-looking education system, even though it be a small one.

- (a) Ministry research units: needed for the solution of day-to-day problems arising in the course of policy-making and the application of policy by the administrators of a central ministry or Department of Education. Regular statistical information is needed; surveys of the school needs of different areas of the country; projections of future enrolments, etc. - all these are constantly needed by the administrators, and special research units responsible for such work are needed.
- (b) Curriculum and methods units: needed for the constant study of the content and techniques of education. These need to have a considerable autonomy, so that they can most effectively join together in co-operative effort educators at various levels - university and teachers' college professors, school teachers' research experts, administrators, and so on.

Such institutions can be, with advantage, granted much autonomy and independence of action, even though it may be convenient to attach them, administratively, to universities or teachers' colleges. They do need to be somewhat separate from the normal administrative structure of ministries, however, so that their innovative role is not hindered by existing policies and practices.

### Research and development

A final note on research and development should be added.

Much innovative thinking occurred among educational theorists and research workers during the early part of the twentieth century, that did not find its way into school practice. This resulted from what may be called 'the application gap'. Basic research proceeded in the following fashion: from theory and intuition, ideas were generated, tested in experimental situations, evaluated statistically, and so on, and then announced

in research publications, to be picked up or ignored according to circumstances unknown. At this point the educational research worker often considered his role ceased: it was for others to apply his hypothesis or idea.

In practice, institutions were lacking that could carry out what we may call educational engineering: to make materials that would make it possible to put ideas into practice. An example is the idea that individualized learning materials would be conducive to steady educational progress in children.

The breakthrough in educational engineering has come with the development of special institutions for this purpose: the Learning, Research and Development centres of the United States of America, to take a current example.

These combine two stages in the innovative process: first, the fundamental research into the processes of learning and teaching, from which new insights may be derived which will lead to technical improvement; secondly, the development of techniques and materials that will enable such insights to be applied in the school.

It should be noted that the word 'development' is used here in its 'engineering' sense: the elaboration of a technique or materials or equipment that will enable a scientific discovery to be put to practical use on an economic scale.

Research and development centres are often complemented by regional laboratories or networks of specially selected schools where newly developed methods and materials can be given a widespread trial before being made universally available.

- (c) Educational research institutions of wider scope. There is need also for institutions for pure research, that have the highest degree of freedom in respect to the kinds of educational problems they examine. Their central role will be to examine problems arising out of existing educational conditions and policies, with a view to facilitating the creation and adoption of new policies at the highest level. For this reason, such institutions need to be quite independent of a Ministry of Education, so that their research will not be channelled into particular directions, or hindered, by the fear that its results may lead to criticisms of existing policy.

- Such high-level research institutions may be given independent existence, with their own governing bodies and their own finances.

- (d) University and teachers' college research units: Viable research units in universities and teachers' colleges are of the greatest value in the training of teachers and educators, as they keep the students in touch with the growing edge of knowledge and make them sensitive to the need for keeping in touch with research when they are qualified and working in the schools.

Such units, however, should not be expected to devote themselves necessarily to the kind of research immediately needed for the improvement of the school system. This would narrow down the range of the educational possibilities of research unduly to the immediate present, and would do a disservice to the breadth of research problems young students may be interested in and would thus defeat the long-term purpose of acquainting them with research methods - that of keeping them alive to the need for innovation and enquiry throughout their professional lives and over the whole range of educational problems.

There is, of course, much to be gained by having teachers' colleges and universities work closely with teachers' committees and research institutions dealing with the immediate needs of the school system; but their research efforts should not be arbitrarily limited to such immediate needs.

## CONCLUSION

In conclusion, it should again be emphasized that a crucial first step in the process of building-in the possibility of continuing innovation in an education system, is a proper understanding by the administrators of the necessary division between the administrative functions and the technical functions that together are necessary for a satisfactory system. And, with this, an understanding is needed, that the administrative function basically has the purpose of facilitating the technical function (and not vice versa!).